Hydroecia velata *Walk.*, rare.
" nictitans *Bkh.*, common.
" cataphracta *Grt.*, rare.
" nitela *Gn.*, rare.
" " var. nebris *Gn.*, rare.
Achatodes zeæ *Harr.*, rare.
Euthisanotia timais *Cram.*, rare.
Arzama obliquata *G. & R.*, common.
Arzama densa *Walk.* ?
" vulnifica *Grt.*, rare.
Monodes nucicolora *Gn.*, rare.
Leucania pallens *Linn.*, rare.
" albilinea *Hbn.*, common.
" phragmatidicola *Gn.*, common.
Leucania commoides *Gn.*, common.
Leucania unipuncta *Harv.*, common
Leucania pseudargyria *Gn.*, common.
Scolecocampa liburna *Geyer*, rare.
Nolophana malana *Fitch.*, common.
" zelleri *Grt.* ?
" labecula *Grt.* ?
Crambodes talidiformis *Gn.*, rare.
Caradrina miranda *Grt.*, common.
Pyrophila pyramidoides *Gn.*, common.
Orthodes infirma *Gn.*, common.
" cynica *Gn.*, rare.
" enervis *Gn.*, common.
Himella intractata *Morr.*, rare.
Taeniocampa modifica *Morr.*, rare.
" alia *Gn.*, rare.
Choephora fungorum *G. & R.*, rare.
Cosmia paleacea *Esp.*, rare.

(To be continued.)

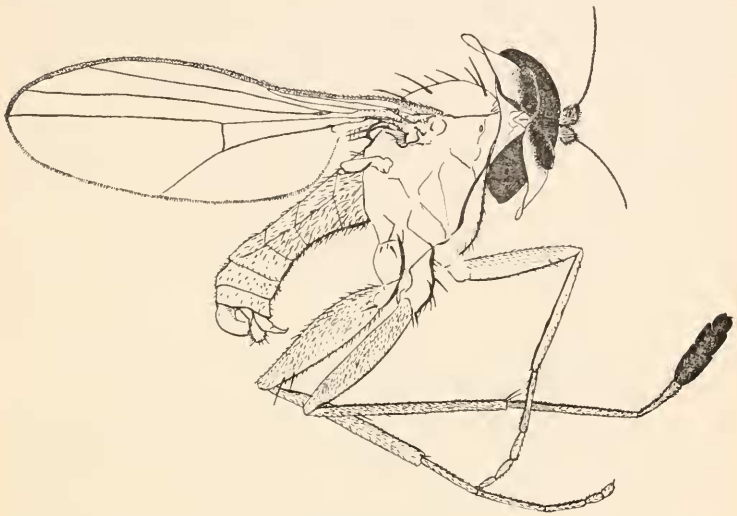
An Interesting New Chrysotus.

[Contributions from the Zoological Laboratory of the University of Texas. No. 42.]

By A. L. Melander.

Chrysotus philtrum sp. nov. *Male.*—Metallic green species with yellow legs. Head large, hemispherical, wider than the thorax: eyes large, narrowly contiguous below the antennæ, facets moderate, gradually larger below. Antennæ short, yellow, the first two joints short, simple, transverse, first joint bare, second and third joints bushy with black hairs, the terminal hairs equal in length to the third joint; third joint slightly compressed, rounded conical, short, equalling the length of the other two joints together, its terminal black arista as long as the eye-height, sparsely beset with short hairs, the distances between the apical ones slightly exceeding the length of these hairs. Face obliterated below the antennæ, becoming elongate-triangular lower down, small, black, vertex broad, with violet-blue-green reflections, the two ocellar bristles strong, recurved, an occipital incurved bristle present on each side of the vertex, postoculars wanting, postocular cilia wanting, the sparse hairs dusky below. Occiput with a violet tinge. Proboscis short, black, concealed beneath the base of the enormously dilated and flattened, subulate palpi, palpi two and one-half times as long as wide, literally projecting beyond the margin of the head, entirely flat, the base, rounded, broad, black in front, the outer half white, excised in front, lanceolate, the blunt

tip twisted, the entire palpus covered with fine silvery sericeous hairs which give even to the black base a glistening silvery color when viewed from certain directions.



Chrysotus philtrum.
The middle tarsus and the head are twisted to show the ventral aspect.

Thorax quadrate, humeri rectangular, dorsum metallic green, slightly brassy towards the roots of the wings. Acrostichals short and sparse, approximated into a single median series; the inner row of dorsicentrals with five moderate bristles, the outer row with four; a few humeral bristles present: scutellum with two distant long bristles: posterior portion of mesonotum but little depressed: entire pleura slaty with cinereous dust. Abdomen depressed basally, metallic brassy green, entirely but rather sparsely covered with short stiff black hairs. Hypopygium small, terminal, compressed, concolorous with the remainder of the abdomen, bare. The sixth ventral emits a pair of short, hooked, chitinous appendages, between which is a small fleshy hairy process.

Coxæ and legs yellow, the middle and hind coxæ somewhat darkened above on the basal half, second joint of middle tarsi white, three outer joints of middle tarsi black. Legs slender and comparatively long, provided with short dark hairs, middle tibiæ somewhat exceeding their femora, one-third longer than their metatarsi; middle metatarsi nearly as long as the remainder of the tarsus; middle and hind tibiæ provided with a glabrous streak on the outer edge, that of the middle tibiæ well-defined by a limiting series of short bristles, both tibiæ with a bristle on the basal third of the outer edge: last three joints of the middle tarsi strongly compressed, straight below but each joint arched and outwardly

produced on the outer side: remainder of legs simple, ungues and pulvilli minute.

Halteres pale luteous. Tegular cilia short, sparse, dusky. Wings normal, clear hyaline, strongly iridescent, costa nowhere thickened, third and fourth veins parallel, posterior cross-vein short, perpendicular to the wing-axis, less than one-half the length of the outer portion of the fifth vein, sixth vein faint.

Three males. Length 1.75 mm. Chester Co., Pennsylvania, June 3, 1902 (J. Chester Bradley), Opelousas, Louisiana, and Austin, Texas, May 2, 1902. These specimens from such distant localities were taken in net sweepings, the Texan one in the rank herbage along the Colorado River at the base of Mount Bonnell.

This curious little fly has its nearest relatives in the genus *Chrysotus*, for which it shows its affinities by the contiguity of the eyes below the antennæ, the width of the vertex, the very short antennæ, the small pulvilli and the lack of true bristles on the hypopygium. The depressions of the mesonotum in front of the scutellum is not marked enough to exclude it from this division. Moreover, a number of *Chrysotus* recently described show greatly lengthened palpi, as *albipalpus* Aldrich, for instance. The first species described under this genus were stout and possessed short legs and rather broad wings, but forms later described show that a stature as slender as that of the present species may obtain also. Its narrowed wings and slender legs suggest an affinity to *Diaphorus*, but here also the middle legs are never longest, while the minute pulvilli, the obliterated face and the glabrous hypopygium preclude this genus.

Curiously enough all other genera of *Dolichopodidæ* have their palpi either incumbent upon the proboscis or hanging by its side. The enormous size of the palpi of *philtrum* in relation to the minute proboscis naturally can not allow of this juxtaposition and the palpi are free to grow laterally. In the genus *Orthochile* the palpi are ribbon-like, in *Diostracus* and *Aphrosylus* they are spoon-shaped, all the remaining members of this family have the palpi small and comparatively scale-like. Thus the present species departs in the shape as well as the size and orientation of its mouth-parts. As an interesting

accompaniment of the enlarged palpi may be noticed the reduction of the orbital cilia. Of the other genera, the males of *Diostracus* alone have the palpi longer than those of the females. Should *philtrum* conform with the rule in this family what a remarkable animal the female must be! But it is far more likely that this secondary sexual character is not repeated in the other sex, and that when the female is discovered she will present no characters at variance with typical *Chrysotus*. It is greatly to be desired that the courtship-habits of these species with enlarged mouth-parts be made known, and especially of this form which has the accompanying allurement of tarsal ornamentation.

A Glimpse of the Life History of Mutilla vesta Cresson.

[Contributions from the Zoological Laboratory of the University of Texas, No. 44.]

By Augusta Rucker.

So little has been made known, at least in America, concerning the habits of the Mutillidæ, that it seems worth while to record the following fragmentary observations made in Austin during the latter part of July on one of the commoner Texan species. Miss Margaret Holliday and myself had been experimenting with some Agricultural ants (*Pogonomyrmex barbatus* Smith, var. *molefaciens* Buckley), and we were endeavoring to obtain a suitable animal food for a queenless colony, which invariably after depositing their unfertilized eggs, resorted to the cannibalistic practice of devouring their larvæ after they had hatched and had been cared for till they were nearly ready to pupate. In our efforts to repress this destructive practice, I placed in a large control nest which had previously been stored with various seeds and freshly killed flies, a larva and pupa of the blue mud-dauber (*Pelopaeus caeruleus*). The ants immediately deserted all other food, showing a decided preference for the newly introduced masses of proteid and fat. This preference did not come merely with a change of diet as often happens with these insects, but continued as long as the young of *Pelopaeus* were